United States Department of the Interior

OFFICE OF HEARINGS AND APPEALS
Interior Board of Land Appeals
4015 Wilson Boulevard
Arlington, Virginia 22203

IN REPLY REFER TO:

NATIONAL WILDLIFE FEDERATION, ET AL.

IBLA 97-339 Decided September 23, 1998

Appeal from a Record of Decision for the Final Environmental Impact Statement for the Plan of Operations submitted by Summo USA Corporation for the Lisbon Valley Copper Project in San Juan County, Utah. UTU 72499.

Affirmed in part; set aside and remanded in part; stay lifted.

1. Environmental Quality: Environmental Statements--National Environmental Policy Act of 1969: Environmental Statements

NEPA is primarily a procedural statute designed to insure a fully informed and well-considered decision. It requires that an agency take a "hard look" at the environmental effects of any major Federal action. An EIS must fulfill the primary mission of NEPA, which is to ensure that a Federal agency, in exercising the substantive discretion afforded it to approve or disapprove a project, is fully informed regarding the environmental consequences of such action. In deciding whether an EIS has done so, it is well settled that a rule of reason will be employed such that the question becomes whether the statement contains a reasonably thorough discussion of the significant aspects of the probable environmental consequences.

2. Administrative Procedure: Administrative Review--Board of Land Appeals--Mining Claims: Plan of Operations--Rules of Practice: Appeals: Jurisdiction

When the Board of Land Appeals issues a stay of a record of decision approving a mine plan of operations, there is no final Departmental action until the Board issues its decision in the case.

3. Administrative Procedure: Adjudication--Administrative Procedure: Administrative Review--Board of Land Appeals--Supervisory Authority of the Secretary--Secretary of the Interior

On judicial review of an administrative determination, the courts apply the arbitrary, capricious, or an abuse of discretion standard, and the courts are limited generally in their review to the administrative record created before the agency. The Board, however, has de novo review authority and it may exercise that authority to determine whether the record in a case supports the action taken by BLM.

4. Environmental Quality: Environmental Statements--Mining Claims: Plan of Operations--National Environmental Policy Act of 1969: Environmental Statements

Whether environmental information generated after the issuance of a final EIS and record of decision approving a mining plan of operations must be publicly circulated and subjected to public comment to satisfy NEPA's EIS requirements is a question which turns on the facts of each particular case.

5. Mining Claims: Plan of Operations--Regulations: Applicability

Where an issue on appeal of a final EIS and record of decision approving a mining plan of operations is the failure of BLM to apply bonding regulations issued on Feb. 28, 1997, 62 Fed. Reg. 9093, and effective Mar. 31, 1997, that issue is mooted by BLM's subsequent application of those regulations and its determination, supported by the record, that under those regulations no long-term bond for water quality was required.

6. Environmental Quality: Environmental Statements--Mining Claims: Plan of Operations--National Environmental Policy Act of 1969: Environmental Statements

NEPA requires that an EIS consider alternatives to the proposed action and Federal agencies are required to use, to the fullest extent possible, the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment. Where BLM has identified and assessed in a final EIS the alternative of partially or completely backfilling the pits created by a mining operation, but

it has rejected that alternative in a record of decision, that part of the record of decision will be set aside and remanded when it is shown that BLM's principal reason for rejecting backfilling is not supported by the record.

APPEARANCES: Thomas D. Lustig, Esq., Jay Tutchton, Esq., National Wildlife Federation, Boulder, Colorado, and Roger Flynn, Esq., The Western Mining Action Project, Boulder, Colorado, for Appellants; John W. Steiger, Esq., Office of the Solicitor, U.S. Department of the Interior, Salt Lake City, Utah, for the Bureau of Land Management; Lawrence J. Jensen, Esq., Salt Lake City, Utah, for intervenor, Summo USA Corporation.

OPINION BY DEPUTY CHIEF ADMINISTRATIVE JUDGE HARRIS

National Wildlife Federation, et al. 1/ appealed and filed a petition for stay of the Record of Decision (ROD) for the Final Environmental Impact Statement (FEIS) for the Plan of Operations submitted by Summo USA Corporation (Summo) for the Lisbon Valley Copper Project. The ROD was dated March 26, 1997, and signed by the Utah State Director, Bureau of Land Management (BLM).

Factual and Procedural Background

The Plan of Operations approved in the ROD provided for an open pit copper mine, heap leach facility, and copper recovery plant, in Lisbon Valley, located approximately 18 miles southeast of LaSal, Utah, in San Juan County. In approving the Plan, the State Director imposed various modifications as described in the Facility Layout Alternative, see FEIS at 2-40, and the Waste Rock Selective Handling Alternative, see FEIS at 2-41. In addition, he dictated the mitigation and monitoring requirements described in the ROD at pages 20-28.

The proposed project will involve 574 acres of public lands, 273 acres of state lands, and 256 acres of private lands, for a total of 1,103 acres. During operation of the mine, four pits encompassing 231 acres will be excavated: the Centennial pit (116 acres), the GTO pit (68 acres), the Sentinel #1 pit (38 acres), and the Sentinel #2 (9 acres). "Mining of the Sentinel #1 pit will not be allowed to cross Lisbon Canyon, as proposed in the Plan of Operations, due to the extreme post-mining surface water flow and erosion impacts that would result from such action." (ROD at 4.) "In accordance with the Facility Layout Alternative identified in the FEIS, and subsequently incorporated into this approval, the overburden and waste ore will be contained in 3 waste dumps, encompassing 394 acres. Dump D, as identified in the Plan of Operations, will be eliminated * * *." Id.

1/ The other Appellants are Protect Our Resources Coalition, Mineral Policy Center, Kay Howe, and Claudia Akers.

A 45 million ton heap leach pad will be constructed to recover the copper concentrate produced by leaching the ore with low concentrations of sulfuric acid. The copper in the concentrate will be collected and recovered through an electrowinning process resulting in the production of 17,000 tons of copper per year during the 10-year life of the mine. After completion of mining, final surface reclamation will require an additional 5 years. The pits will not be backfilled but will be left open at the end of mining. The waste dumps and heap leach pad will be reclaimed in place, and all facilities dismantled and removed.

By Order dated May 19, 1997, the Board granted Summo's motions to intervene and for expedited consideration of the petition for stay. In accordance with 43 C.F.R. § 3809.4(f), which is an exception to the general regulation at 43 C.F.R. § 4.21(a), the filing of the appeal in this case did not stop the State Director's ROD from becoming effective. Western Shoshone National Council, 130 IBLA 69, 71 (1994). Nevertheless, by granting the motion for expedited consideration, the Board agreed to adhere to the 45-day deadline for ruling on petitions for stay incorporated in 43 C.F.R. § 4.21(b)(4) and to rule on the petition for stay on or before June 16, 1997.

By Order dated June 16, 1997, the Board granted a stay, limiting the stay to actual mining operations, but allowing Summo to proceed with the initial construction phase of the project, should it decide to do so. In the Order, after setting forth the issues raised by Appellants, including issues relating to bonding and the effect of the project on groundwater, the Board stated:

> Initial review of this case reveals that many of the arguments raised by Appellants may be characterized as differences of opinion with BLM. Appellants are unlikely to prevail on those arguments. However, it is clear that there are serious, substantial, and difficult questions concerning potential damage to groundwater resources. The fact that reliable baseline groundwater data concerning the classification of the Entrada/Navajo aquifer does not exist raises questions whether such information can be gathered at the same time that Summo is undertaking mining operations. [2/] The record does not show what the results of BLM's discussions at the March 14, 1997, meeting were regarding the imposition of mitigation measures requiring the immediate drilling of Entrada/Navajo wells and the characterization of that aquifer. Summo has already expended

2/ The aquifer in question is variously referred to in the case record as the "Entrada/Navajo Aquifer," the "Navajo Aquifer," or the "N-Aquifer." Herein, we will utilize the term "Navajo Aquifer," unless quoting from a source using a different designation.

millions of dollars developing this project. The fact that it has failed to provide reliable baseline groundwater data to this point militates toward requiring long-term bonding sooner rather than later.

(June 16, 1997, Order at 10.)

On June 24, 1997, Summo filed a "Petition for Reconsideration or, in the Alternative, for Expedited Consideration of the Case." The basis for Summo's petition was its willingness to post a $6,000,000 long-term reclamation bond to cover the costs of preventing any possible contamination of the Navajo Aquifer, and an assertion by Summo that the posting of such a bond would eliminate any threat of immediate, irreparable harm to the interest of Appellants. 3/ Appellants opposed the petition. BLM took no position on the petition, explaining that, in the event the Board were to agree with Summo, BLM could not accept the bond without a review to determine its adequacy.

By Order dated July 24, 1997, the Board denied the petition, stating at page 10: "Clearly, it is not the province of this Board to establish

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3/ In our Order, we stated at page 4:

"Appellants note that the FEIS states that for projects such as that here contemplated, 25-year reclamation bonds for water quality monitoring have been between $25-30 million. Appellants note that Utah BLM's Deputy State Director for Natural Resources recommended, in a memorandum dated March 6, 1997, to the BLM Moab District Manager, the establishment of a trust account in the minimum amount of $6 million, collected prior to any earth disturbing activities and held for 35 years or until the formation of pit lakes, pit lake water chemistry, and the impacts to the Entrada/Navajo aquifer are known.
(Petition Ex. D at 2-3.)

"Appellants assert that BLM has offered no rational explanation for ignoring the Deputy Director's recommendation, but instead has relied on the lack of information on the quality of the Entrada/Navajo aquifer to delay a long-term bond for water quality reclamation. Appellants charge that BLM "will allow the mine to operate for five years before reviewing the issue of water quality reclamation bonding.
(Petition at 10).

"Appellants offer the scenario that if after 5 years BLM discovers that aquifer water quality is good and that mining operations have degraded it then bonding requirements might be very high. As a consequence, in view of steep bonding costs, they assert that the operator might decide that the project is uneconomical and pull out, leaving water quality reclamation in limbo. As an example, Appellants cite a Summitville, Colorado, heap leach gold mine, whose operators, they claim, declared bankruptcy in 1992 and abandoned the site, rather than post an increased bond to cover water reclamation."
(Petition at 10-11; footnote omitted).

in the first instance the amount of any long-term reclamation bond which may be necessary in this case. That is the responsibility of BLM." We also granted Summo's request to expedite this case, stating that we would "attempt to resolve this appeal as quickly as possible, given the competing demands of the Board's caseload." Id.

Thereafter, BLM requested and received a number of extensions of time within which to file its answer in this case. BLM's purpose in requesting the extensions was to allow it to "undertake a preliminary determination of the classification of the Entrada/Navajo aquifer." In order to do so, BLM sought further information from Summo. In a letter to Summo, dated September 25, 1997, BLM outlined additional geochemical sampling to be conducted and Navajo Aquifer test wells to be completed, stating that "[d]ata from these testing efforts will allow additional characterization of geochemical properties of the waste rock associated with the mining operation, in addition to providing more complete information regarding hydrologic characteristics of the Navajo aquifer in the project area."

To supply that data, Summo drilled 4 monitoring wells and 13 geochemical drill holes. Samples from the drill holes were subjected to the meteoric water mobility procedure test and analyzed for a list of parameters established by BLM. The results of that test and analysis were submitted to BLM in December 1997 in a report entitled "Meteoric Water Mobility Test Methods and Results Lisbon Valley Copper Project," prepared by Summo's contractor, Adrian Brown Consultants, Inc. (Adrian Brown), a Denver, Colorado, firm specializing in groundwater hydrology, geochemistry, and remediation.

Adrian Brown analyzed samples from the monitoring wells (MW97-09, MW97-11, MW97-12, and MW97-13) and prepared a report which it submitted to BLM in January 1998. That report is entitled "Annual Update of the Lisbon Valley Hydrogeologic System Evaluation" (1998 Annual Evaluation). In addition, Susan Wyman, Senior Hydrogeologist for Adrian Brown, subsequently provided Summo and BLM with five supporting technical memoranda. 4/

The 1998 Annual Evaluation included two spreadsheet models, to describe water flow and water quality conditions in a shallow aquifer (the Burro Canyon Aquifer), the postmining pits, and the Navajo Aquifer.

4/ Those memoranda, all prepared by Wyman, are entitled "Effect of Increased Solubility Limit on N-Aquifer Chemistry," dated Jan. 29, 1998, "Trace Metals in Lisbon Valley Evaluation," dated Feb. 4, 1998, "Trace Metal Modeling, Lisbon Valley Copper Project, dated Feb. 17, 1998, "Trace Metal Modeling, Lisbon Valley Copper Project," dated Feb. 20, 1998, "Effect of 0.51 inch/year Surface Runoff on Lisbon Valley Model," dated Feb. 23, 1998. When any of these memoranda are subsequently referred to in this opinion, they will receive the designation "Wyman Memorandum" and the date.

The models calculated the depth of water in the postmining pit lakes, projected water quality in the Navajo Aquifer, and the volume of water over time moving down into the Navajo Aquifer.

Prior to submission of the 1998 Annual Evaluation to BLM, Summo provided the State of Utah, Department of Environmental Quality, Division of Water Quality, with the groundwater quality data from the monitoring wells. On January 8, 1998, the State determined, based on that data, that the Navajo Aquifer was a Class III aquifer. (1998 Annual Evaluation, Vol. 1, Attachment 8.) 5/ The State noted that groundwater samples from the Navajo Aquifer exceeded the standards for gross alpha and gross beta activity and significantly exceeded the Environmental Protection Agency's proposed Maximum Contaminant Level for uranium. 6/

The 1998 Annual Evaluation concluded at 40-41:

> The N-aquifer is recharged by the "intact" Burro Canyon aquifer, fractures, and pit ponds. During the first 90 to 110 years after mining, the model predicts that the quality of the water delivered to the N-aquifer will be better than before mining, because the pits will recapture relatively clean water from runoff and deliver it to both the shallow and deep aquifers. Eventually, evapoconcentrated water from the pit ponds will contribute to a slight increase in TDS [total dissolved solids] in the deep aquifer. The predicted TDS increases in the N-aquifer are 7%, 5%, and 3% for the Sentinel, Centennial, and GTO pits, respectively. These changes are significantly less than the 25% TDS limit increase allowed by the ground water quality protection regulations (UAC [Utah Administrative Code] R317-6).

5/ As explained by Summo in its Amended Response to Appellants' Statement of Reasons for appeal (SOR) at page 6, note 3:

"Class III groundwater is defined by the State as Limited Use Groundwater. It contains one or more contaminants that, at background level, exceed Utah's Groundwater Quality Standards, and is therefore not suitable for most uses without first being treated. Utah Administrative Code R317-6-3."

See 1998 Annual Evaluation at 30, Table 4.

6/ In its Response to Appellants' Reply Brief at page 3, n.3, BLM explained as follows:

"Radionuclides, or radioactive nuclides, are unstable isotopes of various elements. The radioactive nuclides that give rise to most of the naturally occurring radioactivity in water are uranium-238, thorium-232, and uranium-235. Hem, J.D., Study and Interpretation of the Chemical Characteristics of Natural Water, at 147 (USGS Water Supply Paper 2254, 1989). Gross alpha and gross beta are general measurements of the radioactive emissions (rather than of concentration or weight per unit volume) of these constituents. Id."

In a memorandum to the file dated February 9, 1998, Lynn Jackson, the BLM Project Manager for the Lisbon Valley Project FEIS, reported that on February 5, 1998, BLM representatives met with Summo officials and Wyman in the Moab District Office, BLM, for the purpose of having Wyman explain the hydrologic and geochemical models developed for the Lisbon Valley Project.

Jackson reported:

> The meeting lasted all day long, with Susan presenting the information and responding to questions from BLM. My initial impression, based on my background in geology, was that the model was well thought out, accounted properly for all sources of water going into and coming out of the hydrologic system, and was based on sound, fundamental scientific principles utilized to examine subsurface geologic and hydrologic conditions. Consequently, the model output indicting no impact to the Navajo aquifer seemed logical.
>
> Based on the meeting, BLM informed Summo that it would be conducting additional review of the data and modeling to assure all questions were answered and BLM geoscience experts fully understood all facets of the model and its output.

The two BLM experts who attended that meeting, Jim Harte, Hydrologist with the Moab District Office, and W.W. White III, Physical Scientist, Division of Solid Minerals, Utah State Office, each undertook an independent review of the 1998 Annual Evaluation and each prepared a memorandum to Jackson, dated March 2, 1998. Harte stated that he had reviewed the water balance model and concluded that the logic and mechanics of the model were "sound" and that "[t]he numbers used in the input variables in the model were reasonable." (Harte Memorandum at 1.) He noted that the Evaluation included water quality data for 16 samples, 4 from the MW97-09 well, 3 from the MW97-11, 5 from the MW97-12, and 4 from the MW97-13, and that while the State had made its aquifer classification based on that data "[a]dditional water quality sampling will be required by the State until there are eight samples per well." Id. at 2. Nevertheless, in his opinion it was "unlikely" that further sampling would show uranium, gross alpha, or gross beta concentrations "less than the limits for Class III water," and, therefore, he found it "unlikely that the existing Class III determination would change." Id.

He stated in conclusion that

> the Water Balance Model is scientifically sound and provides a reasonable prediction of pit lake formation and volume of water infiltrating/percolating from the pit lakes to the N-Aquifer.
>
> I recommend keeping the requirements for mitigation, monitoring (during and post-mining), data collection, and annual ground

water and geochemical modeling as they are in the ROD so that predictions of future conditions in the pits and in the Burro Canyon and N-Aquifers can be refined as mining proceeds.

Id.

White reviewed both the water balance and chemical balance models of the 1998 Annual Evaluation. He found the logic used to construct the models to be "sound, and the ranking of the data reasonable." (White Memorandum at 1.) Referencing the February 5, 1998, meeting at which Wyman explained her models, White stated that as a result of that meeting, he understood "the rationale for the governing formulas that calculate the values for both water and chemical mass at each time step, and have been able to duplicate the values presented." Id. at 3. In conclusion White stated that "my level of comfort with the model construction, additional data ranking and analysis, and the modeled output has markedly increased from that performed for the FEIS and the ROD." Id. at 4. He noted that he had consulted with two colleagues from state environmental protection agencies who are involved in assessing impacts to water quality from metal mine wastes, and that "they were both in agreement that the model concepts are sound and resulting outputs are conservative and worse case." Id.

Based on the additional data collected, the 1998 Annual Evaluation, and Harte and White's independent reviews thereof, BLM prepared a document styled "Administrative Determination of NEPA [National Environmental Policy Act of 1969] Adequacy 062-98-058A Lisbon Valley Copper Project (Administrative Determination)." Under the heading "Conclusions" at page 4, that document stated:

1. As a result of the additional data and analysis, the proposed action and alternatives selected would not change from those identified and analyzed in the Final EIS and ROD for the project.

2. A reasonable range of alternatives was analyzed in the existing EIS.

3. The new information and analysis does not result in any change to the proposed action.

4. The methodology/analytical approach utilized to provide this additional analysis and impact assessment is appropriate and was authorized under provisions of the ROD and the IBLA Stay Order.

5. The new information does not indicate that the direct and indirect impacts of the proposed action would be significantly different than those identified in the existing EIS, and in fact would result in less impact than that identified in the possible worst-case scenarios identified.

6. The new information indicates that there would be a reduction in potential groundwater impacts from that identified in the cumulative impact section of the FEIS.

7. Based on the conclusions in items 1-6, particularly the assessments that there is no change in the proposed action and that impacts are less than identified for a worst case analysis in the current FEIS, no additional public involvement is required.

The same document contains the following statement, signed by the Utah State Director, BLM, and dated March 4, 1998, under the heading "Decision" on page 5:

> Because the additional data and analysis indicate that impacts to groundwater from the project would be less than those identified in the FEIS and ROD and no modifications of Summo's mine plan would occur that could result in additional impacts, or would require modification of the ROD, I have determined that the FEIS for the Lisbon Valley Copper Project dated February 14, 1997[,] adequately addresses the potential impacts of the project and that additional NEPA analysis and documentation are not required to support BLM's March 27, 1997[,] ROD for the project.

In a letter to Summo, dated March 5, 1998, the Moab District Manager, BLM, informed Summo that based on a March 3, 1998, memorandum from the Deputy State Director, Natural Resources, Utah State Office, "the requirement for a long-term 'trust' bond is no longer appropriate, as had been recommended in the Deputy State Director's original bond coverage memorandum dated March 6, 1997." 7/ In that March 6, 1997, memorandum, the Deputy State Director had noted that reclamation of pit lakes was unaccounted for in the surface reclamation estimate and, therefore, he recommended the establishment of a trust account in the minimum amount of $6 million, collected prior to any earth disturbing activities and held for 35 years or until the formation of pit lakes, pit lake water chemistry, and the impacts to the Navajo aquifer were known.

In his March 3, 1998, memorandum, the Deputy State Director concluded, based on all the information compiled since the issuance of the March 6, 1997, memorandum, that the issues of uncertainty had been sufficiently resolved that "there is no reason to require the trust account at this point in time." However, he did recommend, as established by the ROD, that the hydrogeologic models be reviewed annually and that, if any analysis revealed unacceptable impacts to water quality, Summo be required to post an appropriate bond.

7/ The Deputy State Director did, however, calculate a 3-year Federal surface disturbance bond amount in accordance with the bonding regulations at 43 C.F.R. § 3809.1-9(c) (62 Fed. Reg. 9100 (Feb. 28, 1997)) to be $1,032,627.

On March 12, 1998, BLM filed its Answer. Briefing in the case was completed on July 6, 1998, when Appellants responded to a communication sent to the Board by the Governor of Utah.

Discussion

We turn first in our discussion to Appellants' contention in its Reply Brief at page 1 that "this case still boils down to one basic question: Did the BLM'S Record of Decision (ROD) and Final Environmental Impact Statement (FEIS) for the Lisbon Valley Copper Project comply with the law at the time they were issued?" Thus, Appellants contend that the information gathered since the issuance of our Order on June 16, 1997, is irrelevant to their principal arguments that: (1) BLM violated section 302(b) of the Federal Land Policy and Management Act of 1976 (FLPMA), 43 U.S.C. § 1732(b) (1994), and 43 C.F.R. § 3809.1-9(m) (1997), by failing to require Summo to post a required long-term reclamation bond for water quality protection; 8/ and (2) BLM's ROD was based on inadequate environmental analysis in violation of NEPA, 42 U.S.C. § 4321 (1994), and its implementing regulation, 40 C.F.R. § 1502.22, which sets forth the procedure for addressing incomplete or unavailable information. 9/

8/ Section 302(b) of FLPMA requires the Secretary, by regulation or otherwise, to take any action necessary to prevent unnecessary or undue degradation of public lands. The regulation cited by Appellants, 43 C.F.R. § 3809.1-9(m) (1997), provides that BLM must retain a portion of the reclamation financial assurance to ensure that "any effluent discharged from the area has met, without violations and without the necessity for additional treatment, applicable effluent limitations and water quality standards for not less than 1 full year."

9/ That regulation provides:

"When an agency is evaluating reasonably foreseeable significant adverse effects on the human environment in an environmental impact statement and there is incomplete or unavailable information, the agency shall always make clear that such information is lacking.

"(a) If the incomplete information relevant to reasonably foreseeable significant adverse impacts is essential to a reasoned choice among alternatives and the overall costs of obtaining it are not exorbitant, the agency shall include the information in the environmental impact statement."

The regulation further states that if the costs of obtaining the information are exorbitant "or the means to obtain it are not known," the agency must include in the EIS:

"(1) A statement that such information is incomplete or unavailable; (2) a statement of the relevance of the incomplete or unavailable information to evaluating reasonably foreseeable significant adverse impacts on the human environment; (3) a summary of existing credible scientific evidence which is relevant to evaluating the reasonably foreseeable significant adverse impacts on the human environment, and (4) the agency's evaluation of such impacts based upon theoretical approaches or research methods generally accepted in the scientific community."

[1] NEPA is primarily a procedural statute designed "to insure a fully informed and well-considered decision." Vermont Yankee Nuclear Power Corp. v. Natural Resources Defense Council, Inc., 435 U.S. 519, 558 (1978). It requires that an agency take a "hard look" at the environmental effects of any major Federal action. Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976).

In Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 350-51 (1989), the Court stated:

> [I]t is now well settled that NEPA does not mandate particular results, but simply prescribes the necessary process. * * * If the adverse environmental effects of the proposed action are adequately identified and evaluated, the agency is not constrained by NEPA from deciding that other values outweigh the environmental costs. * * * Other statutes may impose substantive environmental obligations on federal agencies, but NEPA merely prohibits uninformed--rather than unwise--agency action.

An EIS must fulfill the primary mission of NEPA, which is to ensure that a Federal agency, in exercising the substantive discretion afforded it to approve or disapprove a project, is fully informed regarding the environmental consequences of such action. See 40 C.F.R. § 1500.1(b) and (c); Natural Resources Defense Council v. Hodel, 819 F.2d 927, 929 (9th Cir. 1987).

In deciding whether an EIS has done so, it is well settled that a rule of reason will be employed such that the question becomes "whether an EIS contains a 'reasonably thorough discussion of the significant aspects of the probable environmental consequences.'" State of California v. Block, 690 F.2d 753, 761 (9th Cir. 1982) (quoting from Trout Unlimited v. Morton, 509 F.2d 1276, 1283 (9th Cir. 1974)).

In this case the absence of baseline groundwater data was acknowledged in the FEIS:

> Groundwater in the Entrada/Navajo aquifer exceeds Utah primary drinking water standards for radionuclides as indicated from the September 1996 sampling of well MW96-7B. None of the other analytical parameters from this well exceeded Utah primary or secondary drinking water standards. Elevated radionuclides in the Entrada/Navajo aquifer indicate that a Class III, limited use designation would apply. Due to its proximity with monitoring well 95R1 it is possible that the groundwater quality sample taken from monitoring well MW96-7B was affected by contamination from water from the Burro Canyon Formation. As a result, this groundwater quality sample may not be representative of the Entrada/Navajo aquifer and the Class III, limited use, designation may not apply to the Entrada/Navajo aquifer.

(FEIS at 3-43.)

Thus, the lack of information created an uncertainty as to the impact of the project. BLM was aware of the uncertainty and the State Director was willing to approve the plan of operations and allow the project to proceed despite that uncertainty and despite the fact that the Deputy State Director, Natural Resources, recommended that the uncertainty dictated requiring a long-term bond before any surface disturbing activities took place. The State Director relied on the State's Ground Water Quality Discharge Permit (GWQDP), issued effective January 15, 1997, which set groundwater protection levels specific to the project and identified a program for groundwater monitoring wells and evaluation during the first 5-year permit. See FEIS at 2-43.

We believe the proper course of action at the time the ROD issued in March 1997 would have been for BLM, an agency operating under a mandate to protect the public lands from unnecessary or undue degradation, to require the posting of a sufficient long-term bond to protect against the uncertainties relating to groundwater quality identified in the FEIS, with the possibility of reducing that bond if further studies clarified those uncertainties.

According to BLM and Summo, any uncertainties have, in fact, now been removed by the further collection of data and the analysis of that data.

Appellants argue, however, that BLM should not be allowed to use the appeals process, and in particular the provisions allowing the Board to grant a stay of a decision pending appeal, to fix an otherwise deficient decision. To do so, Appellants assert, "makes a mockery of the Department's appeal process." (Appellants' Reply at 3.) Appellants contend that by allowing the submission of additional information to support the environmental analysis, the Board would be shielding that information from public scrutiny.

Appellants also contend:

> A Supplemental EIS is predicated upon new information arising after a valid underlying Final EIS was completed. In this case, the FEIS was not valid. Appellants' argument that the original FEIS is deficient due to lack of information does not equate to asking for a Supplemental FEIS when the agency puts forth new information. Conversely, the BLM's unilateral decision to undertake new analysis does not transform the issue to one of whether the new information is "significant." As noted above, the FEIS/ROD stand or fall on their own merits. While the fact that the BLM and Summo gathered new data and undertook new analysis certainly supports Appellants' argument that the FEIS was premature and inadequate, it does not transform this case into something it is not.
>
> Overall, a Supplemental EIS is prepared when new information arises that was not able to be gathered during the preparation

> of the underlying FEIS. See generally, Marsh v. Oregon Natural Resources Council, 490 U.S. 360 (1989). In this case, the opposite is true - the "new" information is actually information BLM should have gathered prior to the FEIS/ROD. See, Appellants's Statement of Reasons, at pp. 22-33.

Id. at 13-14.

For the following reasons, we reject these arguments made by Appellants.

Appellants cite numerous court cases in support of their position that BLM may not use new data to "fix" an otherwise inadequate FEIS and ROD. Those case are inapposite. For example, Appellants assert that the Board may not rely on "post hoc rationalizations" for BLM's FEIS and ROD, citing Stop H-3 Ass'n v. Dole, 740 F.2d 1442, 1453 n.18 (9th Cir. 1984), cert. den. sub nom., Yamasaki v. Stop H-3 Ass'n, 471 U.S. 1108 (1985), a case citing both Camp v. Pitts, 411 U.S. 138, 142 (1973) and Citizens to Preserve Overton Park v. Volpe, 401 U.S. 402, 419 (1971).

In Stop H-3, an environmental challenge to the proposed construction of a highway, the "post hoc rationalization" involved, in part, the testimony of an engineer who had assisted in the preparation of a statement required to be signed by the Secretary of Transportation, which was a focus of the litigation. The conclusion offered by the engineer in his testimony in District Court did not appear in the statement itself. The Circuit Court quoted the following from page 142 of the Supreme Court's decision in Camp: "In applying [the arbitrary, capricious, or an abuse of discretion] standard, the focal point for judicial review should be the administrative record already in existence, not some new record made initially in the reviewing court." Stop H-3 Ass'n v. Dole, supra. The Circuit Court also noted that the District Court had before it affidavits that had not been before the Secretary, which it characterized, citing Overton Park, as merely post hoc rationalizations. Id. at 1453-1454.

[2] In making their argument, Appellants confuse the process of administrative review with the process of judicial review. The underlying matter before the Circuit Court in Stop H-3 was an administrative decision that constituted "final agency action" under the Administrative Procedure Act, 5 U.S.C. § 704 (1994). The Circuit Court's objection was directed to a testimonial opinion and affidavits developed after "final agency action" had been taken. In this case the Board issued a stay of the agency action. 10/ The Board's decision in this case will be the final

10/ Had the Board denied Appellants' petition to stay the ROD, and Appellants' had sought judicial review of the ROD, those cases referred to by Appellants might have been appropriately cited to the court as precedent for precluding the court from utilizing the information developed after issuance of the ROD as a basis for its decision. Those precedents do not, however, preclude the Board from doing so.

agency action. See 43 C.F.R. § 4.21; Concerned Citizens for Responsible Mining (On Reconsideration), 131 IBLA 257, 259-61 (1994). As the Board stated in In re Lick Gulch, 72 IBLA 261, 273 n.6, 90 I.D. 189, 196 n.6 (1983), a case decided at a time when 43 C.F.R. § 4.21 provided for an automatic stay of agency decisions pending the pendency of an appeal:

> The Board, in essence, makes the determination for the Secretary of the Interior. As his direct delegate, the Board, no less than the Secretary, himself, is required to consider all relevant information tendered both by an appellant and by BLM. Just as an appellant can submit studies to support its prior assertions, so, too, can the Bureau submit data to support its contentions. The time frame in which the data is generated is irrelevant to appeals such as the instant one, since, until the Board acts, there is no decision for the Department.

[3] Under the arbitrary, capricious, or an abuse of discretion standard, the courts are limited in their review to the administrative record created before the agency. However, when a timely appeal subjects a BLM decision to this Board's jurisdiction, our review authority is de novo in scope because it is our delegated responsibility to decide for the Department "as fully and finally as might the Secretary" appeals regarding use and disposition of the public lands and their resources. 43 C.F.R. § 4.1; see Ideal Basic Industries v. Morton, 542 F.2d 1364, 1367-68 (9th Cir. 1976); Forest Oil Corp., 141 IBLA 295, 306 (1997); Richard Bargen, 117 IBLA 239, 245 n.3 (1991); United States Fish & Wildlife Service, 72 IBLA 218, 220 (1983). Thus, the Board may exercise its de novo review authority to determine whether the record in a case supports the action taken by BLM, and we do so in this case.

Appellants also argue in a June 19, 1998, letter to the Board that the Board's recent decision in Island Mountain Protectors, 144 IBLA 168 (1998), ruled that inadequate analysis of baseline groundwater conditions and of potential impacts to groundwater in an EIS for an open pit hardrock mine violated BLM's statutory and regulatory duties. It states that those exact issues are raised in this case, implying that Island Mountain should control the disposition of those issues in this case.

We do not find Island Mountain controlling. In that case various groups challenged two BLM decisions approving expansion of two mines in Montana, the Zortman and Landusky mines, and reclamation plans for those mines. The mine operator, Zortman Mining Incorporated, sought dismissal of the appeals because it and its parent corporation, had filed for bankruptcy. It stated that it was canceling expansion of the mines and was proceeding with reclamation.

BLM sought remand on the same basis stating that it anticipated that Zortman would file a final reclamation plan and that it wanted to reacquire jurisdiction in order to undertake an environmental analysis of that plan. It stated that any decision on that plan would be subject to appeal to the Board.

The Board's decision did not question Zortman's statement that it was canceling its expansion of the mines, which would have entailed the withdrawal of the plans of operations that were the subject of the EIS and the decisions being challenged in the appeals. Id. at 181, n.6. Nor did it question BLM's statement that the submission of a final reclamation plan would result in a new BLM decision subject to appeal to this Board. Nevertheless, it did not dismiss the appeals in toto. Id. at 182. Instead, Judge Irwin offered his opinion with regard to the groundwater issue, which would have been affected principally by the canceled mine expansions:

> [T]here was "incomplete or unavailable information" to evaluate reasonably foreseeable significant adverse effects on the human environment, in particular, impacts on groundwater during the proposed expanded operations and after the mine sites are reclaimed. The EIS' disclosures that information about groundwater was limited were not sufficient to comply with 40 C.F.R. § 1502.22. BLM was obligated to obtain additional information or, if the means to obtain it were not known, address the matters set forth at 40 C.F.R. § 1502.22(b). Although the water management system may limit infiltration and reduce the probability of groundwater contamination, a low probability does not exclude groundwater contamination as a "reasonably foreseeable significant adverse impact." 40 C.F.R. § 1502.22(b). The fact groundwater has been an issue for many years and the attention it receives in the EIS attest to the fact that impacts may be significant and additional information was "essential to a reasoned choice among alternatives." The fundamental point of NEPA's action-forcing procedures is to require Federal agencies to take a "hard look" at environmental consequences. Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 349-50 (1989); Kleppe v. Sierra Club, 427 U.S. 390, 410 n.21 (1976); see also 40 C.F.R. § 1500.1. Absent compliance with the regulation, we cannot say that BLM took a hard look at the environmental consequences of long-term reclamation.

Id. at 201. 11/

In Island Mountain the mines in question had a history of significant groundwater problems and little was known about groundwater flows in the vicinity of the mines. In such a situation, it was incumbent upon BLM to gather as much information as possible in order to make an informed

11/ To the extent that one judge expressed his opinion in Island Mountain regarding the adequacy of the EIS as it related to groundwater (the other signing judge concurred only in the result), that opinion is not precedential beyond the facts of that appeal. Even if that opinion did establish precedent for judging the adequacy of groundwater data in an EIS, we find the facts in that case distinguishable.

judgment regarding expansion of the mines. Absent that information, it was reasonable to conclude that the requisite "hard look" had not been taken.

In the present case, the level of uncertainty is not comparable. Although BLM had limited information of groundwater impacts, the State had issued a GWQDP, and there was preliminary evidence regarding the Class III nature of the water in the Navajo Aquifer. BLM had information to reasonably evaluate significant adverse effects and it acknowledged uncertainties in the FEIS as to the impacts of mining on groundwater quality. The failing was not in the FEIS' admitted lack of groundwater information, but in the ROD's failure to require a long-term bond in the face of the paucity of information and the uncertainties thereby created.

[4] Appellants contend, however, that even if the Board allows the submission of the new information, "such information must be subject to NEPA's public review procedures - something that has not been done in this case." (Appellants' Reply at 7.) Appellants cite the Council on Environmental Quality (CEQ) regulations in 40 C.F.R. Part 1500 and Part 1502, requiring that environmental information be made available to public officials and citizens early in the process before decisions are made, as supporting their contention. Absent public scrutiny, they assert, such information cannot be used to support the underlying FEIS/ROD. They assert that unless a document has been publicly circulated and subjected to public comment, it cannot satisfy NEPA's EIS requirements, citing, inter alia, Commonwealth of Massachusetts v. Watt, 716 F.2d 946, 951 (1st Cir. 1983), Grazing Fields Farm v. Goldschmidt, 626 F.2d 1068, 1073-74 (1st Cir. 1980), and I-291 Why? Association v. Burns, 517 F.2d 1077, 1081 (2nd Cir. 1975).

While NEPA mandates procedures, not substantive results, it does not require public review and comment on all information. The question of whether documents must be distributed by an agency for public comment turns on the facts of each particular case.

The Watt case involved the appeal from a District Court order enjoining the Department of the Interior from auctioning rights to drill for oil and gas in the North Atlantic off the New England coast. The Department prepared an EIS estimating recoverable oil to be 1.73 billion barrels. Thereafter, it reduced its estimate to 55.7 million barrels. The Department prepared a Secretarial Issue Document (SID) and an environmental assessment (EA), but it did not prepare a supplemental EIS to describe the environmental consequences of the reduced estimate.

The Circuit Court stated that even if the SID and EA could have been considered an adequate supplement, which it held they could not, they were not made public until the beginning of the litigation. The Court held that a failure to circulate publicly a document and make it available for public comment violated NEPA. Commonwealth of Massachusetts v. Watt, supra, at 951.

Clearly, in such a case where there was a radical departure from the published EIS, the offering of supplementary information for public comment was a necessity. Likewise, in Grazing Fields Farm, supra, at 1072-75, the Circuit Court reversed a District Court order granting summary judgment on the basis that the administrative record satisfied all the purposes of an EIS. The Circuit Court held that the NEPA requirement to discuss alternatives to proposed action was not satisfied by documents discussing an alternative, "the upland alternative," which were in the case record but not included in the EIS. The Circuit Court remanded the case to allow the District Court to determine if the discussion of the upland alternative in the EIS itself satisfied NEPA. In that case the information in question went to the heart of the NEPA process, the discussion of alternatives.

The Circuit Court in I-291 Why? affirmed the issuance of a preliminary injunction by the District Court halting construction of highway I-291 near Hartford, Connecticut. The Circuit Court stated supra, at 1081:

> The conclusory treatment of air and noise quality aspects of the EIS were shown to be inadequate by the subsequent air and noise studies. These studies could not cure these particular inadequacies because they were not circulated for review and comment in accordance with procedures established to comply with NEPA.

In I-291 Why? the EIS was 28 pages in length. Noise pollution received a 2-page treatment without any data, and air pollution was discussed in a single paragraph. The subsequent studies showed significant impacts not discussed in the EIS. Those studies were not made a supplemental EIS; nor were they circulated or made public.

In the present case, there is no issue regarding the public disclosure for comment of data complied regarding the impacts of the Lisbon Valley Project leading up to and including the issuance of the FEIS and ROD. Following issuance of the FEIS and ROD, Appellants filed their appeal, and, thereafter, new information was generated. It is this new information that Appellants argue must be distributed for public comment or NEPA requirements will be violated.

We disagree. The new information does not radically change an assumption of the FEIS, or relate directly to an alternative action, or show that there are significant impacts of the project that were not disclosed in the FEIS. In fact, the new information confirmed the assumption of the FEIS that the Navajo Aquifer was a Class III aquifer, and it also arguably establishes that impacts to ground water quality will be minimal. In addition, BLM sent copies of all the new information to Appellants and the information was publically available. The groundwater data and analyses were also submitted to the State of Utah, which classified the Navajo Aquifer as Class III. The fact that the information was not released expressly for public comment is not, under the facts of this case, a violation of NEPA.

Having made the above determinations, we address the arguments made by Appellants concerning groundwater quality and bonding in light of the

new information. In their SOR, filed after issuance of our June 16, 1997, Order, they assert that "the most glaring omission of important information in the FEIS and ROD is the failure to gather and document baseline data on the quality of water in the Navajo/Entrada (Navajo) Aquifer." (SOR at 23.) The lack of information and BLM's failure to require a bond in light of the uncertainties created by that lack of information is what convinced the Board to grant a partial stay in this case. However, Appellants' complaint of lack of information has now been addressed by the new data and analysis submitted by BLM.

Nevertheless, Appellants argue that although BLM claims that Class III water quality standards in the Navajo Aquifer will not be degraded beyond state protection levels by pit lake infiltration, Utah applicable groundwater regulations provide that "[i]f the background concentration exceeds the groundwater quality standard, no increase will be allowed, citing R317-6-4." This, Appellants assert, amounts to a nondegradation requirement for uranium and radionuclides.

Appellants state that although the new data and analyses include modeling for TDS and selenium and zinc, as described by BLM in its Answer at 8-9, "[n]o review or modeling was done to determine the levels of uranium and radionuclides that may exist as a result of the mine pits." (Appellants' Reply at 17.) Appellants point to BLM's statement in its Answer at 9 that modeling predicted an increase in the concentrations of selenium and zinc and offer the assumption that both uranium and radionuclides concentrations will also increase, which, they assert, under State law is prohibited. Appellants contend that "[a]t a minimum, treatment needed to prevent increases in these constituents would need to be bonded for." (Appellants' Reply at 19.)

BLM responds that Appellants are not entirely correct in their characterization of the standards for uranium and radionuclides to which Summo will be held. It states that in accordance with the GWQDP, the compliance level for all parameters, including uranium and radionuclides, is established as the greater of the protection level or the background mean plus two standard deviations. See FEIS, Appendix D, Table 1, note d. BLM asserts that for uranium and radionuclides the compliance level will be the background mean plus two standard deviations.

Moreover, BLM criticizes Appellants' assumption that if TDS, selenium, and zinc will increase, uranium and radionuclides will increase also. It states that the assumption fails for several reasons. BLM asserts that field evidence suggests that trace metals will be attenuated by natural processes before they reach the Navajo Aquifer. See 1998 Annual Evaluation at 6. Trace metals "were essentially undetected in the three runoff ponds on the site." Id. Trace metals which might be found in pit lakes "are not expected to evapoconcentrate," instead they are expected to "adsorb onto precipitating solids and suspended particulates." Id. Also, BLM points out that even if trace metals were to evapoconcentrate, they would not migrate to the deep Navajo Aquifer because they would adsorb on the intervening materials.

Also, BLM states that subsequent to submission of the 1998 Annual Evaluation, at BLM's request, Adrian Brown undertook a geochemical mass balance model of the Centennial and GTO pits for the trace metals selenium and zinc. That modeling was based on the worst case scenario that "all trace metals are desorbed (i.e. remain in solution) and do not adsorb anywhere along the pathway to the N-Aquifer." (White Memorandum at 2, n.3.) 12/ "For the first 90 to 110 years, water quality in the N-Aquifer is expected to improve slightly. Thereafter, slight increases in selenium and zinc concentrations are predicted by the model." (Wyman Memorandum, dated Feb. 17, 1998, at 14.) However, it must be emphasized that "the model will err on the side of environmental conservatism, because none of the geochemical processes which contribute to the attenuation of trace metals from solution are modeled. Therefore, the model will tend to over-predict trace metal impacts to the N-Aquifer." Id. at 1.

Under those circumstances, it was reasonable for BLM to decide not to require further modeling for uranium and radionuclides. 13/ Appellants have failed to show that the project will result in unacceptable levels of uranium and radionuclides in the Navajo Aquifer. 14/

12/ In that Memorandum, White stated at page 1, note 1:
"These pits were selected for modeling because they contained the highest MWMP/pit-area trace-metal values for selenium and zinc. Selenium and zinc were selected for modeling because they were the only trace metals with values that equaled or exceeded analytical detection limits for 50% of the Burro Canyon water-sample population (50% detection within the population is required for statistical validity)."

13/ Appellants also note that the Burro Canyon Aquifer currently exceeds standards for a number of metals and radionuclides, and they complain that the nondegradation standard is also applicable to the Burro Canyon Aquifer and that "any increase in any of those parameters is prohibited." (Appellants' Reply at 21.) Appellants assert that BLM's failure to ascertain whether this could occur in the long term "fatally flaws" BLM's actions. Id. We find no flaw. Current projections are for no increase in those parameters. As stated in Wyman's Memorandum, dated Feb. 17, 1998, at 14:
"The trace metals concentrations in the shallow (Burro Canyon) aquifer will not be affected by the pit ponds, because groundwater will flow from the aquifer to the pits, in the long term. During the first few years of aquifer and pit refilling, surface water runoff to the pits (which is cleaner than the water in the Burro Canyon aquifer) will flow from the pits to the aquifer."

14/ BLM correctly contends that a supplemental EIS need not be prepared on the basis of new information unless the new information shows that the proposed action would have a significant effect not addressed in the EIS, citing Marsh v. Oregon Natural Resources Council, 490 U.S. 360, 374 (1989). In this case, if the additional data and analyses had supported a classification of the Navajo Aquifer as a Class I or II aquifer, proceeding with the project would have resulted in a significant impact to groundwater resources. However, the new information confirmed a Class III classification for the Navajo Aquifer and failed to show risks of significantly greater impact than those addressed in the EIS.

[5] We now direct our attention to the issue of long-term bonding for water quality. Appellants complained in their SOR that BLM erred in not applying bonding regulations, published in the Federal Register on February 28, 1997, 62 Fed. Reg. 9093, to require a long-term bond for water quality prior to approval of the project. As set forth above, prior to issuance of the ROD, the Utah Deputy State Director, Natural Resources, had recommended, based on the new regulations, that Summo be required to establish a trust account in the minimum amount of $6 million because of the uncertainty surrounding the reclamation of pit lakes and the effects of pit lakes on groundwater quality. This recommendation was not accepted by the State Director, but, as noted in our June 16, 1997, Order there was no explanation in the record transmitted to the Board of why that recommendation was not followed.

Under section 302(b) of FLPMA, 43 U.S.C. § 1732(b) (1994), the Secretary was directed to take, by regulation or otherwise, any action necessary to prevent unnecessary or undue degradation of public lands. "Reclamation" is defined in the regulations as "taking such reasonable measures as will prevent unnecessary or undue degradation of the Federal lands * * *." 43 C.F.R. § 3809.0-5(j). Further, 43 C.F.R. § 3809.0-5(k) provides that

> [u]nnecessary or undue degradation means surface disturbance greater than what would normally result when an activity is being accomplished by a prudent operator in usual, customary, and proficient operations of similar character and taking into consideration the effects of operations on other resources and land uses, including those resources and uses outside the area of operations. Failure to initiate and complete reasonable mitigation measures, including reclamation of disturbed areas or creation of a nuisance may constitute unnecessary or undue degradation. Failure to comply with applicable environmental protection statutes and regulations thereunder will constitute unnecessary or undue degradation.

See 43 C.F.R. § 3809.2-2; Charles S. Stoll, 137 IBLA 116, 125 (1996); Arthur Farthing, 136 IBLA 70, 73 (1996).

Appellants contend that the bonding requirements specifically required long-term water quality protection as a necessary part of required financial assurances for reclamation, citing 43 C.F.R. § 3809.1-9(m) (1997).

BLM and Summo each argue that any concerns regarding applicability of the bonding regulations to the project are moot for two reasons. First, because it has now, in fact, applied those regulations, and, second, because following submission of additional information during the period when actual mining operations were stayed by this Board's June 16, 1997, Order, the Deputy State Director changed his position based on his conclusions that the uncertainties had been addressed by the new information, and BLM has determined that a long-term bond is unnecessary.

The issue of which bonding regulations should apply in this case is now moot because, even though the bonding regulation cited by Appellants, 43 C.F.R. § 3809.1-9, did not become effective until March 31, 1997, 5 days after issuance of BLM's ROD, BLM agreed to apply the revised regulations in determining the necessity for a long-term bond, and it did so. 15/ We conclude, based on our review of the record, that BLM properly determined that there is no necessity for long-term bonding to ensure groundwater quality at this time, subject to the requirements in the ROD for continuous monitoring and updating of groundwater information.

Appellants also allege that BLM failed to require Summo, as part of the EIS process, to (1) develop a postmining pit lake monitoring and water quality assessment plan; (2) develop a quality control plan for the heap leach liner; (3) submit a sampling plan for each pit; and (4) submit a plan for modification of Waste Dump C.

Appellants characterize these actions, required by the ROD, as plans supporting mitigation measures. They contend that NEPA and its implementing regulations require that mitigation measures and plans supporting those measures be disclosed and discussed during the NEPA process.

Both BLM and Summo characterize these as operational details, claiming that they are not required to be scrutinized in detail in an EIS.

Whether or not these required actions may be characterized as mitigation measures or plans supporting mitigation measures, we find no merit to Appellants' argument. Details of mitigation measures are not required to be set forth in the FEIS. As the Supreme Court stated in Robertson v. Methow Valley Citizens Council, 490 U.S. 332, 351 (1989): "To be sure, one important ingredient of an EIS is the discussion of steps that can be taken to mitigate adverse environmental consequences." However, the Court cautioned that

> [t]here is a fundamental distinction, however, between a requirement that mitigation be discussed in sufficient detail to ensure that environmental consequences have been fairly evaluated, on the one hand, and a substantive requirement that a complete

15/ There is also an additional reason why this issue is moot. As pointed out by counsel for Summo, on May 13, 1998, the United States District Court for the District of Columbia granted a motion for summary judgment filed by Northwest Mining Association in a case challenging the bonding regulations promulgated by the Department on Feb. 28, 1997, Northwest Mining Association v. Babbitt, No. 97-1013 (D.D.C. May 13, 1998). The District Court held that the Department had failed to meet the mandates of the Regulatory Flexibility Act, 5 U.S.C. §§ 601-612 (1994), as amended by Pub. L. No. 104-121, Title II, 110 Stat. 864-67 (1996), and remanded the rulemaking to the Department for action consistent with its opinion.

> mitigation plan be actually formulated and adopted, on the other * * * it would be inconsistent with NEPA's reliance on procedural mechanisms--as opposed to substantive, result-based standards--to demand the presence of a fully developed plan that will mitigate environmental harm before an agency can act.

Id. at 352-53.

It clearly was reasonable for BLM to delay submission of a postmining pit lake monitoring and water quality assessment plan because of the lack of present information. As shown by the additional groundwater data that has been gathered, the appropriate scope of the plan will change as more detailed information is gathered.

The FEIS contains detailed information on heap leach liner construction. (FEIS at 2-12 to 2-17.) Absent evidence that there is a substantial risk of leakage, we find no fault in BLM's requirement for the filing of a heap leach liner quality control plan 30 days prior to liner construction.

With respect to pit sampling, the FEIS discusses waste rock sampling at 4-33 to 4-35 and provides an analysis of Summo's proposed sampling plan, as well as providing mitigation to cover details missing from Summo's plan. The fact that the ROD requires more specificity does not establish the inadequacy of the discussion in the FEIS or establish that more was required in the FEIS.

BLM states that the ROD does not require the submission of a plan for modification of Waste Dump C. Rather, the ROD directs that modification take place. The requirement for modification of Waste Dump C developed as a result of the NEPA process, as described by BLM in its Answer at page 20. The FEIS analyzes waste rock data and recommends that during the last year of construction of Waste Dump C that the ratio of waste rock with Acid Neutralizing Potential to waste rock with Acid Generating Potential not exceed 3:1. The ROD changed that ratio to 4:1. We find no NEPA violation in this process.

Appellants assert that BLM failed to consider a full range of alternatives for detailed review in the FEIS. Specifically, they allege that BLM failed to consider (1) backfilling the pits with only nonacid-generating rock, (2) utilizing only one or two waste rock dumps, and (3) requiring on-site power generation. In addition, Appellants contend that BLM failed adequately to justify its rejection of other alternatives.

[6] NEPA requires that an EIS consider "alternatives to the proposed action." 42 U.S.C. § 4332(2)(C)(iii) (1994). Regulations of the CEQ provide that Federal agencies shall, to the fullest extent possible, "[u]se the NEPA process to identify and assess the reasonable alternatives to proposed actions that will avoid or minimize adverse effects of these actions upon the quality of the human environment." 40 C.F.R. § 1500.2(e). Further, agencies shall "[r]igorously explore and objectively evaluate

all reasonable alternatives, and for alternatives which were eliminated from detailed study, briefly discuss the reasons for their having been eliminated." 40 C.F.R. § 1502.14(a). Agencies need not discuss alternatives that would not satisfy the purposes of the proposed action or that are remote and speculative. Headwaters, Inc. v. BLM, Medford District, 914 F.2d 1174, 1180-81 (9th Cir. 1990); City of Aurora v. Hunt, 749 F.2d 1457, 1467 (10th Cir. 1984); Roosevelt Campobello International Park Commission v. U.S. Environmental Protection Agency, 684 F.2d 1041, 1047 (1st Cir. 1982). In a leading case on the requirement to discuss alternatives, Judge Leventhal stated that "the alternatives required for discussion are those reasonably available * * *." Natural Resources Defense Council, Inc. v. Morton, 458 F.2d 827, 834 (D.C. Cir. 1972). Judge Leventhal continued:

> Since the [EIS] also sets forth that the agency's proposal was put forward to meet a near-term requirement * * * the possibility of the environmental impact of long-term solutions requires no additional discussion at this juncture. * * * In the last analysis, the requirement as to alternatives is subject to a construction of reasonableness * * *. There is reason for concluding that NEPA was not meant to require detailed discussion of the environmental effects of "alternatives" put forward in comments when these effects cannot be readily ascertained and the alternatives are deemed only remote and speculative possibilities, in view of basic changes required in statutes and policies of other agencies -- making them available, if at all, only after protracted debate and litigation not meaningfully compatible with the time-frame of the needs to which the underlying proposal is addressed.

Id. at 837-38.

BLM explained in the FEIS at 1-9 that four alternatives to the proposed action were analyzed in the FEIS: the No Action Alternative, the Open Pit Backfilling Alternative, the Facility Layout Alternative, and the Waste Rock Selective Handling Alternative. A number of alternatives were identified during the scoping process and evaluated based on environmental, engineering, and economic factors and were eliminated. Those alternatives (the Mining Alternative, the Site Access Alternative, the Processing Alternative, the Haulage Alternative, the Water Balance Alternative, and the Powerline Route Alternatives) and the reasons for elimination are set forth in the FEIS at 1-9 to 1-12.

Appellants cite the discussion on page 2 of the ROD highlighting the benefits of backfilling the pits, such as improved visual resources, an additional 231 acres returned to postmining uses for wildlife and livestock, and enhanced public safety, and state that, despite those benefits, BLM rejected backfilling principally because of the threat of acid run off. Appellants complain that BLM failed to consider the alternative of backfilling the pits with only nonacid-generating rock. Appellants assert

that this is a viable option because Summo is required by BLM to separate out the acid-generating rock from the nonacid-generating rock. Appellants state that such backfilling merits consideration because of its environmental and safety benefits, which were outlined in the ROD. Those benefits, Appellants argue, greatly outweigh the limited economic benefits of leaving the rock waste available for some future recovery of low grade copper.

BLM responds that the FEIS did consider a partial backfilling option in which the "material would most likely come from the nonacid generating waste rock in the waste dumps" (FEIS at 2-39), but that BLM rejected backfilling regardless of whether it was done with nonacid-generating material or a combination of waste rock types. BLM provided five reasons in its ROD at page 10 for rejecting either partial or complete backfilling. The first of those reasons was:

> [T]here would be water quality impacts from backfilling the pits with material from the waste dumps, due to the chemical makeup of the waste rock backfill material, particularly the acid generating material. With the tremendous increase in surface area exposed in the rubblized backfill material, chemical reactions between this material and groundwater could present a host of unquantifiable adverse impacts to the downgradient aquifers, resulting from chemical interactions of groundwater and waste rock. [16/]

BLM also explained that backfill would adversely impact its selection of the Waste Rock Selective Handling Alternative to mitigate potential for postmining acid rock drainage. Under that alternative, acid-generating material mined from the rock would be encapsulated in the waste dumps with acid neutralizing material in order to prevent long-term acid leachates emanating from the waste dumps.

A third reason given by BLM was that from the standpoint of visual impact reduction, there would still be surface dumps present after backfilling because of the swell factor associated with rock removed from the ground and rubblized. Further, it states that the Lisbon Valley area is classified as Class IV under its Visual Classification Rating system, which is the lowest rating, and, thus, visual impacts are not critical.

Fourth, BLM determined that safety factors were not an issue because it had uncovered no instances of public safety problems associated with abandoned mining pits on the site for the past 20 years. BLM stated that it intended to require postmining berming, fencing, and signing.

16/ In its Amended Response to Appellants' SOR, Summo asserts at page 12-13 that BLM's concern regarding adverse impacts related not only to acid-generating material, but also to nonacid-generating material that could result in alkaline conditions.

Finally, BLM stated that backfilling the pits "will render future recovery of lower grade copper ore remaining in the pits at the end of mining infeasible from an economic standpoint."

In its Answer, BLM concluded by stating that "for the Appellants to succeed in showing that the BLM inadequately considered this alternative, they should be required to adduce some objective evidence that the BLM's reasoning for rejecting backfilling is erroneous." (Answer at 24.)

In its Reply, Appellants state that objective evidence to refute BLM's rationale is contained in the record in this case. They cite a September 7, 1997, letter from Gregory A. Hahn, President and Chief Executive Officer of Summo, to Kate Kitchell, Moab District Manager, BLM, in which Hahn states:

> I sincerely regret that someone, in either BLM or Woodward-Clyde [Consultants, who prepared the draft and FEIS under third party contract], felt it necessary to slam the backfilling alternative during the FEIS and ROD process on chemical grounds. Summo has always believed that in the long run we would likely be required by the State, if not the BLM, by the time the five-year renewal was upon us, to backfill the pits in the event I am wrong and groundwater does percolate back into the pits. Bob [Prescott, Vice President-Operations for Summo and General Manager of the Lisbon Valley Project,] and I have been in this business a long time and neither one of us has ever had a situation with more benign mine waste rock material to work with than we have at the Lisbon Valley Project. The thought that this waste material could be considered deleterious to the environment if used as backfill came as a complete shock to both of us, and is incredulous. It is unfortunate that we were not afforded an opportunity to review the FEIS or ROD before these documents were released to the public.

Appellants state that although the backfilling alternative was rejected on several grounds, the principal one, waste rock chemistry, has been called into question by Summo, itself. Appellants assert that "serious questions exist as to the BLM's scientific and technical reasons for concluding that constituents leached from the backfill material would be injurious." (Appellants' Reply at 25.)

We must agree with Appellants. Even the FEIS is inconsistent with BLM's concern with "particularly the acid generating material." (ROD at 10.) As explained in the FEIS at 3-44, static acid/base accounting (ABA) tests are used as a screening technique to determine whether sample material has the potential to generate or consume acid.

> Static ABA tests were conducted on samples from lithologic units representing both the waste rock and exposed pit bottom rock contained within the proposed limits of the GTO, Centennial, and

> Sentinel pits. A total of 186 intervals of waste rock lithologies from 23 coreholes, and 27 intervals representative of pit bottom rock from 8 coreholes were tested.

Id.

> The FEIS reported at 3-48 to 3-49:
>
> The ABA test results indicate that the primary lithologic units which are likely acid-generating are the coaly beds of the Dakota Sandstone (beds 6, 7, and 8). The test results also indicate that the majority of the waste rock to be produced from the GTO, Centennial, and Sentinel pits is acid-neutralizing. An analysis conducted by Summo of the waste rock volume to be generated from these pits indicates that the volume of acid-generating waste rock (beds 6, 7, and 8) is less than 10% of the total waste rock to be generated. Therefore, the waste rock and exposed pit wall rock are anticipated to be overall net acid-neutralizing.

At page 4-35, the FEIS discusses the environmental impacts on geochemistry of partial or complete backfilling. The overall impacts of partial or complete backfilling are described as positive, although the FEIS does state that regardless of the geochemical characteristics of the backfilled material, its rubblized nature would make it "easier to leach soluble constituents from these materials, especially as water levels fluctuated." However, as described in that part of the FEIS describing the environmental impacts of backfilling on hydrology:

> [R]esults of static testing of waste rock samples indicate that only approximately 10 percent of the waste rock would be capable of producing acidic solutions. Because the remainder of the waste rock has a net acid-neutralizing capacity, it is expected that leaching of aluminum and iron would be minimal.

Id. at 4-31. The FEIS states further that under alkaline conditions leaching of sulfates and some oxyanions could occur. Id.

We conclude that the record does not support BLM's rejection of the Open Pit Backfilling Alternative in the ROD based on its concern for impacts on water quality from acid generating material. While its concern regarding impacts from alkaline conditions may be legitimate, those concerns are not so well stated anywhere in the ROD or the FEIS as to serve as the principal basis for complete rejection of the alternative, especially in light of Hahn's statement regarding the benign nature of the waste rock material. Accordingly, we must set aside the ROD to that extent and remand the case to BLM for reconsideration of the backfilling alternative.

Appellants also claim that BLM should have considered the alternative of having one or two rock waste dumps, rather than limiting the

choice to three or four dumps and choosing three. Summo originally proposed four waste rock dumps. BLM devised an alternative that eliminated one of the dumps. It also considered the possibility of relocating two other dumps, but found that there was no other area to which to relocate them "that would lessen the visual impact to the traveling public." (FEIS at 2-40.) BLM was justified in not considering a one or two dump alternative.

Appellants complain that BLM violated NEPA by not even considering the reasonable alternative of on-site power generation. In response to a comment on the Draft EIS, BLM stated: "The amount of energy required to be utilized in the recovery circuits for this project are considerable. Alternative sources would be on-site hydrocarbon powered electrical generation plants. Based on the amount of additional impacts from fuel transportation, noise, and air emissions, this alternative was not considered." (FEIS at 5-31.) Appellants have failed to show that on-site power generation is a reasonable alternative. There is no NEPA violation.

Appellants' last argument concerning alternatives is their contention that BLM failed to justify adequately its rejection of various alternatives eliminated during the scoping process. Appellants cite BLM's reference to "increased costs" or "significant costs" as reasons for rejecting alternatives "without providing any information on these costs." (SOR at 40-41.)

Under 40 C.F.R. § 1502.14(a), an agency is required to "[r]igorously explore and objectively evaluate all reasonable alternatives, and for alternatives which are eliminated from detailed study, briefly discuss the reasons for their having been eliminated." (Emphasis added.) In each case BLM briefly discussed the reasons for eliminating alternatives. (FEIS 1-9 to 1-12.) Those reasons included not only cost considerations, but environmental and technical aspects. Appellants demand more detail, asserting that it is legally required. We are not persuaded. BLM has provided the brief description called for by the regulation. Appellants have shown no error.

Appellants find fault with BLM's cumulative impacts analysis because it is contained in only a few pages of the FEIS and allegedly failed to address all past, present, and future operations. See FEIS at 4-93 through 4-95.

While admitting that the section in the FEIS titled "Cumulative Impacts" is only a few pages long, Summo and BLM contend that BLM analyzed past and present activities in the "Affected Environment" section of the FEIS covering pages 3-1 through 3-106 and then concluded in the cumulative impacts section that the incremental impacts of the project would be negligible. No more is required, they assert.

CEQ regulations require that a Federal agency must consider the potential cumulative impacts of a planned action together with other past, present, and reasonably foreseeable future actions. 40 C.F.R. § 1508.7; see Fritiofson v. Alexander, 772 F.2d 1225, 1243-44 (5th Cir. 1985); G. Jon and Katherine M. Roush, 112 IBLA 293, 305 (1990). Appellants charge that BLM

arbitrarily narrowed its review of future activities to only those that, according to the FEIS at 4-93, "have a substantial resource commitment (greater than $10 million in early 1996) or are evidenced by permit filings with the BLM or other responsible agencies for land development approvals." Although Appellants assert that BLM must show the statutory or regulatory basis for "this unilateral and arbitrary reduction in the scope of its NEPA review," (SOR at 43), we find that the burden is on Appellants to show that such a guideline is unreasonable or illegal.

Appellants assert that "BLM failed to even mention the large number of mines in the area that are currently operating, on stand-by status, abandoned, or in the exploration phases." (SOR at 45.) Appellants find "most egregious" the lack of any mention of Summo's "Cashin Copper Mine currently in the advanced stages of exploration less than 15 miles from the Project site * * *." (SOR at 45.)

We find that the FEIS adequately considered the cumulative impacts of the Lisbon Valley Project. The FEIS assesses the current environmental condition of the project study area, which is generally the Lisbon Valley area, and details the current condition of various resources or areas of concern and the expected impact the project would have on them. (FEIS at 3-1 to 3-106.)

The FEIS contains a section on geologic resources which contains a discussion of past mining activities in the area and the potential for new activities. (FEIS at 3-18 to 3-20.) Summo asserts that "[t]here is only a small limestone quarry eight miles from the Project and a one-man specimen collector nine miles away. All other mines are abandoned, mined out, or are uranium mines that have not been operated for years and are not expected to ever operate again, given the market for uranium." (Amended Response at 17, n.7.) Summo also alleges that what Appellants describe as the Cashin Copper "Mine" is "really only an ore deposit on which some exploratory work has been done and whose future is extremely uncertain." (Amended Response at 17.)

We find no error in the analysis of past and current mining activities found in the FEIS. The FEIS established a reasonable standard to guide its review of future activities. Appellants have failed to show that such standard is unreasonable or illegal or that BLM did not properly utilize that standard. This Board has expressly held that exploration and development are not connected actions, as defined at 40 C.F.R. § 1508.25(a)(1), and that mine development is not a reasonably foreseeable result of exploration. Concerned Citizens for Responsible Mining (On Reconsideration), 131 IBLA 257, 267 (1994). 17/ Accordingly, BLM was not required to include the Cashin exploration activity in the FEIS.

17/ "Scope" is defined in 40 C.F.R. § 1508.25 as the "range of actions, alternatives, and impacts to be considered in an environmental impact statement." Actions need only be considered in the same impact statement if they are connected, i.e., "closely related." 40 C.F.R. § 1508.25(a)(1).

Finally, Appellants contended that BLM failed to consider adequately impacts on wildlife. 18/ Appellants base this argument on letters in the record from the Fish and Wildlife Service (FWS) and the Utah Division of Wildlife Resources (UDWR) commenting on the FEIS, which they quote in part. They apparently believe the quoted material establishes that BLM violated NEPA. We find no such violation.

The letter from UDWR, dated March 17, 1997 (SOR, Ex. F), states that pit ponds need to be covered to avoid avian losses and it requests that it be notified by Summo and BLM of any avian or other wildlife losses caused by the mining operation, particularly the pits. UDWR also states that mitigation for lost habitat is vague and needs to be clarified. It expresses concern that the project is in historic black-footed ferret habitat, but it acknowledges that no ferrets were found during a 1995-96 winter survey. It does not ask for any particular action regarding black-footed ferrets. It also criticizes as inadequate the utilization of a 3-strand fence to preclude wildlife/equipment conflicts.

A number of UDWR's concerns are addressed in the ROD at 25-26, which discusses mitigation for wildlife. In addition, the ROD provides for Summo, BLM, and UDWR to work together to lessen the impacts of the project on wildlife and engage in wildlife enhancement. UDWR's letter does not support Appellants' claim of an inadequate assessment. It is clear that BLM will work closely with UDWR to ensure minimal impacts to wildlife from the project.

The FWS letter, dated March 19, 1997 (SOR, Ex. G), states that, although the FEIS recognizes that the project will result in a water depletion for the endangered Colorado fish species, it fails to discuss the impact that depletion will have on those species. The ROD addresses this situation, recognizing that the project will potentially affect endangered species in the Colorado River Basin, it provides that "consultation was undertaken with the USFWS based on provisions of the Endangered Species Act," and that "FWS has required a depletion payment fee, based on the average rate of water depletion. This fee will be used by FWS to purchase additional water rights within the basin and enhance habitat for these fish species." (ROD at 16.) The FWS letter does not support Appellants' argument that BLM inadequately assessed the impacts of the project on wildlife.

To the extent Appellants have raised other arguments in this case that have not been specifically addressed, they have been considered and rejected. See Glacier-Two Medicine Alliance, 88 IBLA 133, 156 (1985).

18/ Appellants also advance a theory that BLM engaged in a "secret Summo deal" by rushing to approve the Lisbon Valley Project in the interest of pursuing a land exchange involving lands controlled by Summo in New Mexico. (SOR at 48-50.) This theory is refuted by the Mar. 3, 1998, declaration of G. William Lamb, the BLM Utah State Director, attached to BLM's Answer.

Accordingly, pursuant to the authority delegated to the Interior Board of Land Appeals by the Secretary of the Interior, 43 C.F.R. § 4.1, and based on our de novo review of the record in this case, the ROD is affirmed in part, and set aside and remanded in part to allow BLM to reconsider the backfilling alternative, as discussed above. The stay imposed by the Board's Order dated June 16, 1997, is lifted, and the remand shall have no effect on Summo's right to proceed with the Lisbon Valley Project.

Bruce R. Harris
Deputy Chief Administrative Judge

I concur:

James L. Byrnes
Chief Administrative Judge